

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A light-emitting element which emits light itself, comprising:
a light-emitting portion having a higher refractive index than a refractive index of air; and
a diffraction grating structure provided to a light-emitting outermost surface side of the light-emitting portion,

wherein a minimum light-emission value is greater than 0% and equal to or less than 50%
of a maximum light-emission value along the entire spectrum of visible light when upon white
light ~~is~~being emitted from said light-emitting portion,

wherein said diffraction grating structure has a pitch of a fine convex-concave structure
being in a range of from 1 μm to 4 μm , and a depth of said fine convex-concave structure being
in a range of from 0.4 μm to 4 μm .

2. (currently amended): The light-emitting element according to claim 1, further
comprising:

a color-separation filter provided between said light-emitting portion and said light-emitting side surface,

wherein a minimum value of a spectral product obtained from a light-emission waveform
of the white light emitted from said light-emitting portion and a spectral transmittance of said

color-separation filter is greater than 0% and equal to or less than 50% of a maximum value thereof, whereby the minimum light-emission value is greater than 0% and equal to or less than 50% of the maximum light-emission value ~~when upon the white light is being~~ emitted from said light-emitting portion.

3. (currently amended): The light-emitting element according to claim 2, wherein a color-separation filter which has minimum transmittance of greater than 0% and equal to or less than 50% of maximum transmittance is used for said color-separation filter.

4. (previously presented): The light-emitting element according to claim 1, wherein said light-emitting portion includes light-emitting materials for at least two primary colors emitting the white light among light-emitting materials for three primary colors.

5. (original): The light-emitting element according to claim 4, wherein a light-emission ratio of the light-emitting materials for said at least two primary colors among the light-emitting materials for the three primary colors is adjusted to make the minimum light-emission value equal to or less than 50% of the maximum light-emission value when the white light is emitted from said light-emitting portion.

6. (original): The light-emitting element according to claim 4, wherein said light-emitting portion includes the light-emitting materials for said three primary colors.

7. (original): The light-emitting element according to claim 4, wherein said light-emitting materials exhibit light emission by singlet exciton.

8. (original): The light-emitting element according to claim 2, wherein said light-emitting materials exhibit light emission by triplet exciton.

9. (canceled).

10. (previously presented): The light-emitting element according to claim 1, wherein a ratio of said depth to said pitch in said fine convex-concave structure ranges from 0.25 to 0.60.

11. (previously presented): The light-emitting element according to claim 1, wherein said light-emitting portion includes light-emitting materials for at least two primary colors emitting the white light among light-emitting materials for three primary colors.

12. (previously presented): The light-emitting element according to claim 1, further comprising:

a color-separation filter provided between said light-emitting portion and said light-emitting side surface,

wherein a minimum value of a spectral product obtained from a light-emission waveform of the white light emitted from said light-emitting portion and a spectral transmittance of said color-separation filter is approximately 7% of a maximum value thereof.

13. (previously presented): The light-emitting element according to claim 4, wherein the combination of said light-emitting portion and said color separation filter suppresses the transmitted light to extent in the wave range $\pm 25\text{nm}$ or more apart from the maximum light emission wavelength of said light-emitting materials.

14. (previously presented): The light-emitting element according to claim 1, further comprising: a color-separation filter provided between said light-emitting portion and said light-emitting side surface,

wherein a minimum value of a spectral product obtained from a light-emission waveform of the white light emitted from said light-emitting portion and a spectral transmittance of said color-separation filter is approximately 2% of a maximum value thereof.

15. (previously presented): The light-emitting element according to claim 1, wherein said light-emitting portion comprises:

a glass substrate,

a transparent electrode formed on one side of said glass substrate,

a light-emitting layer formed on said transparent electrode, and

a rear electrode formed on said light-emitting layer,

wherein said diffraction grating structure is formed on the other side of said glass substrate that is said light-emitting outermost surface side of said light-emitting portion.

16. (previously presented): The light-emitting element according to claim 15, further comprising a color-separation filter formed between said glass substrate and said diffraction grating structure.

17. (previously presented): The light-emitting element according to claim 15, wherein said diffraction grating structure is obtained by providing the fine convex-concave structure to the surface of said other side of said glass substrate.

18. (previously presented): The light-emitting element according to claim 15, wherein said diffraction grating structure is formed by bonding an optical film separately manufactured as a transmission type optical film that has the fine convex-concave structure to said other surface of said glass substrate.

19. (previously presented): The light-emitting element according to claim 2, wherein said diffraction grating structure is obtained by providing the fine convex-concave structure to the outer surface of said color-separation filter.

20. (previously presented): The light-emitting element according to claim 2, wherein said diffraction grating structure is formed by bonding an optical film separately manufactured as a transmission type optical film that has the fine convex-concave structure to the outer surface of said color-separation filter.

21. (previously presented): The light-emitting element according to claim 2, wherein said color-separation filter is formed to have a single layer structure.

22. (previously presented): The light-emitting element according to claim 2, wherein said color separation filter is formed to have a multi-layer structure.

23. (previously presented): The light-emitting element according to claim 15, wherein the light emitted is substantially white light.

24. (new): A light-emitting element which emits light itself, comprising:
a light-emitting portion having a higher refractive index than a refractive index of air; and
a diffraction grating structure provided to a light-emitting outermost surface side of the light-emitting portion,

wherein a minimum light-emission value is greater than 0% and equal to or less than 50% of a maximum light-emission value along the entire spectrum of visible light upon white light being emitted from said light-emitting portion, and

wherein the maximum light-emission value is peak portion of the spectrum of the emitted light and the minimum light-emission value is the valley portion of the spectrum of the emitted light in proximity to the peak portion.

25. (new): The light-emitting element according to claim 1, wherein the maximum light-emission value is peak portion of the spectrum of the emitted light and the minimum light-

emission value is the valley portion of the spectrum of the emitted light in proximity to the peak portion.

26. (new): An organic EL element, comprising:

a light-emitting portion having a higher refractive index than a refractive index of air,
comprising:

a transparent substrate,

a transparent electrode formed on one side of said substrate,

an organic compound layer formed on said transparent electrode, said organic
compound layer including a light-emitting layer, and

a rear electrode formed on said organic compound layer;

a color--separation filter formed on the other side of said substrate,

a diffraction grating structure formed on said color-separation filter, having a pitch of a
fine convex-concave structure being in a range of from 1 μ m to 4 μ m, and a depth of the fine
convex-concave structure being in a range of from 0.4 μ m to 4 μ m,

wherein said color separation filter is selected so that, when white light is emitted from
said light-emitting portion, a minimum value of a spectral product obtained from a light-emission
waveform of the white light and a spectral transmittance of said color-separation filter is equal to
or less than 50% of a maximum value thereof.

27. (new): An organic EL element, comprising:

a light-emitting portion having a higher refractive index than a refractive index of air,
comprising:

- a transparent substrate,
- a transparent electrode formed on one side of said substrate,
- an organic compound layer formed on said transparent electrode, said organic compound layer including a light-emitting layer, and
- a rear electrode formed on said organic compound layer;
- a color-separation filter formed on the other side of said substrate,
- a diffraction grating structure formed on said color-separation filter, having a pitch of a fine convex-concave structure being in a range of from $1\mu\text{m}$ to $4\mu\text{m}$, and a depth of the fine convex-concave structure being in a range of from $0.4\mu\text{m}$ to $4\mu\text{m}$,
- wherein said light-emitting portion emits white light, and
- wherein a minimum value of a spectral product obtained from a light-emission waveform of the white light and a spectral transmittance of said color-separation filter is equal to or less than 50% of a maximum value thereof.

28. (new): An organic EL element, comprising:

a light-emitting portion having a higher refractive index than a refractive index of air,
comprising:

- a transparent substrate,
- a transparent electrode formed on one side of said substrate,

an organic compound layer formed on said transparent electrode, said organic compound layer including a light-emitting layer, and

a rear electrode formed on said organic compound layer;

a diffraction grating structure formed on the other side of said substrate, said diffraction grating structure having a pitch of a fine convex-concave structure being in a range of from $1\mu\text{m}$ to $4\mu\text{m}$, and a depth of the fine convex-concave structure being in a range of from $0.4\mu\text{m}$ to $4\mu\text{m}$,

wherein said light-emitting layer includes light-emitting materials for at least two primary colors emitting white light among light-emitting materials for three primary colors, and

wherein a light-emission ratio of the light emitting materials for said at least two primary colors among the light-emitting materials for the three primary colors is adjusted to make a minimum light-emission value equal to or less than 50% of a maximum light-emission value when white light is emitted from said light-emitting portion.

29. (new): An organic EL element, comprising:

a light-emitting portion having a higher refractive index than a refractive index of air, comprising:

a transparent substrate,

a transparent electrode formed on one side of said substrate,

an organic compound layer formed on said transparent electrode, said organic compound layer including a light-emitting layer, and

a rear electrode formed on said organic compound layer;

a diffraction grating structure formed on the other side of said substrate, said diffraction grating structure having a pitch of a fine convex-concave structure being in a range of from $1\mu\text{m}$ to $4\mu\text{m}$, and a depth of the fine convex-concave structure being in a range of from $0.4\mu\text{m}$ to $4\mu\text{m}$,

wherein said light-emitting layer includes light-emitting materials for at least two primary colors among light-emitting materials for three primary colors,

wherein said light-emitting portion emits white light, and

wherein a minimum light-emission value is equal to or less than 50% of a maximum light-emission value.